

REMARKS

Claims 1-11 and 13-50 are pending in this application, claims 3-5, 7-11, 14-37 and 44-50 having been withdrawn from consideration. By this Amendment, claim 1 is amended and claim 12 is cancelled. Support for the amendments to claim 1 can be found, for example, in the instant specification at page 51, line 30 to page 52, line 5 and in original claim 1. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Objection to Drawings

The Office Action objects to the drawings as failing to show "an angle between an axis of phase advance of the additional $\lambda/4$ retardation layer and that of the $\lambda/4$ retardation layer contained in the laminated retardation optical element is substantially equal to 90 degrees," as recited in claim 42.

Applicants submit that the additional $\lambda/4$ retardation layer recited in claim 42 is shown, for example, as a $\lambda/4$ retardation layer 102C in FIG. 2 and is described, for example, at page 58, lines 17 to 23 of the instant specification. As for the differing axes of phase advance between the $\lambda/4$ retardation layer of the laminated retardation optical element and the additional $\lambda/4$ retardation layer of the liquid crystal display recited in claim 42, Applicant submits that the recitation of differing axes of phase advance refers to properties, and not structure, of components of the liquid crystal display recited in claim 42. Accordingly, all structural elements of claim 42 are shown in the instant drawings, and further illustration is not necessary.

For the foregoing reasons, withdrawal of the objection is respectfully requested.

Rejections Under 35 U.S.C. §103A. Claim 1

The Office Action rejects claim 1 under 35 U.S.C. §103(a) over U.S. Patent No. 6,646,701 to Lyu et al. ("Lyu") in view of U.S. Patent No. 5,504,603 to Winker et al. ("Winker") and U.S. Patent No. 5,403,510 to Kajiyama et al. ("Kajiyama"). Applicant respectfully traverses the rejection.

Claim 1 recites "[a] laminated retardation optical element comprising: an A plate-type retardation layer that acts as an A plate; and a C plate-type retardation layer that is optically bonded to a surface of the A plate-type retardation layer and acts as a negative C plate; wherein: the A plate-type retardation layer comprises a cross-linked nematic liquid crystal, and the C plate-type retardation layer comprises a cross-linked chiral nematic or discotic liquid crystal; and a difference between a mean refractive index of the A plate-type retardation layer and a mean refractive index of the C plate-type retardation layer is 0.05 or less" (emphasis added). Lyu does not teach or suggest such an optical element. Winker and Kajiyama do not remedy the deficiencies of Lyu.

The Office Action asserts that Lyu discloses a liquid crystal display device including an A-plate compensation film and a C-plate compensation film. The Office Action further asserts that, when the liquid crystal display device of Lyu is assembled, the A-plate and the C-plate would be laminated together to form a laminated retardation optical element in which the C-plate is optically bonded to the A-plate. In addition, the Office Action asserts that the mean refractive indices between the layers would be small. Notwithstanding these assertions, Lyu does not anticipate and would not have rendered obvious the optical element of claim 1.

Claim 1 requires a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. While the Office Action correctly points out that Lyu discloses a device

including an a-plate compensation film 12 and a c-plate compensation film 31 (*see, e.g.*, column 7, line 66 to column 8, line 8; FIG. 13), there is no teaching or suggestion in Lyu that the layers 21, 31: (a) are optically bonded, or (b) have a difference in mean refractive indices of 0.05 or less. The Office Action makes the bald assertion that upon assembly the a-plate compensation film 12 and a c-plate compensation film 31 of Lyu would be optically bonded. *See* paragraph 5, page 4. This is mere conjecture.

None of the references teaches or suggests a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. The Office Action does not assert that any of the references discloses that an A plate-type retardation layer is optically bonded to a C plate-type retardation layer. Rather, the Office Action asserts that this arrangement will simply occur when a device is assembled. There is no support in the Office Action for this assertion. The Office Action then asserts (in discussing the Su Yu reference cited below) that it would have been obvious to form an A plate-type retardation layer and a C plate-type retardation layer of the same material (without identifying how one of ordinary skill in the art would know or be motivated to select A and C plate layers made of the same material or expect success from such a configuration), and that having so selected the layers the recited difference in mean refractive indices would inherently result. Again, the Office Action fails to identify support in the prior art or the general knowledge of skilled artisans for any of the several steps in reasoning required to come to the conclusion that the recited differences in mean refractive indices would have been obvious.

The C plate-type retardation layer is optically bonded to a surface of the A plate-type retardation layer in claim 1 -- that is, there is no intervening layer such as an air layer. This arrangement is not disclosed in any of the cited references. Because the A plate-type retardation layer and the C plate-type retardation layer are directly, optically bonded, it is

possible to obtain a difference in refractive indices of the layers of 0.05 or less. *See, e.g.*, instant specification, page 51, line 30 to page 52, line 5. This configuration, in turn, makes it possible to prevent interfacial reflection in the laminated optical element and prevent reductions in contrast. *See, e.g.*, instant specification, page 52, lines 5 to 11. None of the cited references teaches or suggests the desirability of optically bonding an A plate-type retardation layer and a C plate-type retardation layer, or the desirability of the recited difference in mean refractive index.

The Office Action cites Winker for its alleged teaching of using a negative C-plate to increase contrast ratio at large fields of view. The Office Action cites Kajiyama for its alleged teaching of using cross-linked liquid crystal as a material for an A-plate and a C-plate. However, Winker and Kajiyama, like Lyu, fail to teach or suggest a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claim 1 would not have been rendered obvious by Lyu, Winker and Kajiyama. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Claim 2, 38-40 and 43

The Office Action rejects claims 2, 38-40 and 43 under 35 U.S.C. §103(a) over Lyu in view of Winker, Kajiyama and U.S. Patent Application Publication No. 2004/0095532 to Parri et al. ("Parri"). Applicant respectfully traverses the rejection.

For the foregoing reasons, Lyu, Winker and Kajiyama do not teach or suggest the optical element of claim 1. Parri does not remedy the deficiencies of Lyu, Winker and

Kajiyama. The Office Action cites Parri for its alleged teaching of using an A-plate as a quarter wave film. However, Parri, like Lyu, Winker and Kajiyama, fails to teach or suggest a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claim 1 would not have been rendered obvious by Lyu, Winker, Kajiyama and Parri. Claims 2, 38-40 and 43 depend from claim 1 and, thus, also would not have been rendered obvious by the cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Claims 6, 12 and 13

The Office Action rejects claims 6, 12 and 13 under 35 U.S.C. §103(a) over Lyu in view of Winker, Kajiyama and U.S. Patent Application Publication No. 2004/0051831 to Su Yu et al. ("Su Yu"). Applicant respectfully traverses the rejection.

For the foregoing reasons, Lyu, Winker and Kajiyama do not teach or suggest the optical element of claim 1. Su Yu does not remedy the deficiencies of Lyu, Winker and Kajiyama. The Office Action cites Su Yu for its alleged teaching of thicknesses of a negative retardation film. However, Su Yu, like Lyu, Winker and Kajiyama, fails to teach or suggest a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in

mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claim 1 would not have been rendered obvious by Lyu, Winker, Kajiyama and Su Yu. Claims 6, 12 and 13 depend from claim 1 and, thus, also would not have been rendered obvious by the cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

D. Claims 41 and 42

The Office Action rejects claims 41 and 42 under 35 U.S.C. §103(a) over Lyu in view of Winker, Kajiyama, Parri and U.S. Patent Application Publication No. 2005/0151896 to Hara et al. ("Hara"). Applicant respectfully traverses the rejection.

For the foregoing reasons, Lyu, Winker, Kajiyama and Parri do not teach or suggest the optical element of claim 1. Hara does not remedy the deficiencies of Lyu, Winker, Kajiyama and Parri. The Office Action cites Hara for its alleged teaching of thicknesses of a negative retardation film. However, Hara, like Lyu, Winker, Kajiyama and Parri, fails to teach or suggest a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.


Claim 1 would not have been rendered obvious by Lyu, Winker, Kajiyama, Parri and Hara. Claims 41 and 42 depend from claim 1 and, thus, also would not have been rendered obvious by the cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11 and 13-50 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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